

APPROVAL SHEET

WLPM131350 Series SMD Molded Power Inductors



*Contents in this sheet are subject to change without prior notice.

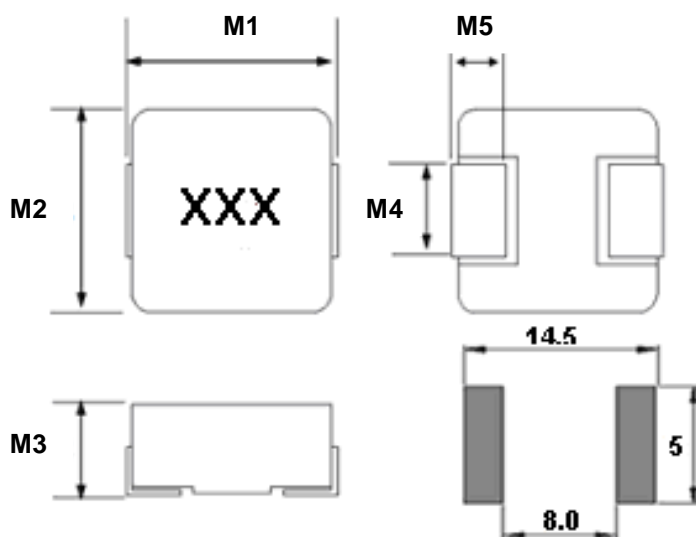
Features

1. Shielded construction.
2. Ultra low buzz noise.
3. Low DCR.
4. Handles high transient current spikes without saturation.
5. Encapsulated body offers improved environmental protection and moisture resistance.
6. Higher dielectric with standing voltage.
7. Corrosion resistant package.
8. RoHS Compliance.

Applications

1. PDA/Notebook/Desktop/Server applications high current and low profile power supplier.
2. High current POL converters.
3. Battery powered devices.

Shape and Dimension

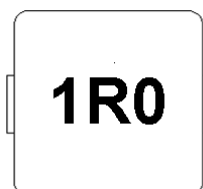


UNIT: mm

| | DIM. | TOL. |
|----|------|------|
| M1 | 13.5 | ±1.0 |
| M2 | 12.8 | ±0.5 |
| M3 | 5.0 | Max |
| M4 | 3.8 | ±0.5 |
| M5 | 2.5 | ±0.5 |

Marking code

Marking ex:1.0uH → 1R0



Ordering Information

| WL | PM | 1313 | 50 | M | R33 | L | C |
|---------------------|-------------------------------------|-------------------|------------------|------------------|--------------------------|---------------------------------|-----------|
| Product Code | Series | Dimensions | Thickness | Tolerance | Value | Packing Code | |
| WL: Inductor | SMD molded power inductor. | 13.5 *12.8mm | 5.0mm | M: $\pm 20\%$ | R33=0.33uH 2R2=2.20uH | L=13" Reeled (Embossed tape) | C:General |

Electrical Characteristics

WLPM131350*LC series

| PART NO. | Inductance | Tolerance | DCR Maximum (mΩ) | | Rated Current | I sat |
|------------------|------------|-----------|------------------|------|---------------|-------------|
| | (uH) | | TYP | MAX | Typical (A) | Typical (A) |
| WLPM131350MR10LC | 0.1 | M | 0.53 | 0.6 | 55 | 118 |
| WLPM131350MR22LC | 0.22 | M | 0.64 | 0.8 | 51 | 110 |
| WLPM131350MR33LC | 0.33 | M | 0.85 | 1.1 | 42 | 80 |
| WLPM131350MR47LC | 0.47 | M | 1.1 | 1.3 | 38 | 65 |
| WLPM131350MR56LC | 0.56 | M | 1.3 | 1.5 | 36 | 55 |
| WLPM131350MR68LC | 0.68 | M | 1.5 | 1.7 | 34 | 54 |
| WLPM131350MR82LC | 0.82 | M | 2 | 2.3 | 31 | 53 |
| WLPM131350M1R0LC | 1 | M | 2.1 | 2.5 | 29 | 50 |
| WLPM131350M1R2LC | 1.2 | M | 2.8 | 3.5 | 25 | 49 |
| WLPM131350M1R5LC | 1.5 | M | 3.4 | 4.1 | 23 | 48 |
| WLPM131350M1R8LC | 1.8 | M | 4.2 | 4.9 | 19 | 40 |
| WLPM131350M2R2LC | 2.2 | M | 4.6 | 5.5 | 20 | 32 |
| WLPM131350M3R3LC | 3.3 | M | 7.7 | 9.2 | 15 | 32 |
| WLPM131350M4R7LC | 4.7 | M | 12.8 | 15 | 12 | 27 |
| WLPM131350M5R6LC | 5.6 | M | 14 | 16.5 | 11.5 | 22 |
| WLPM131350M6R8LC | 6.8 | M | 15.4 | 18.5 | 11 | 21 |
| WLPM131350M7R8LC | 7.8 | M | 17.2 | 20.5 | 10 | 18 |
| WLPM131350M8R2LC | 8.2 | M | 18.9 | 22.5 | 9.5 | 18 |
| WLPM131350M100LC | 10 | M | 21.4 | 25.5 | 9 | 16 |

TEST INSTRUMENT: CHROMA 16502 、Zentech1320+Zentech3305

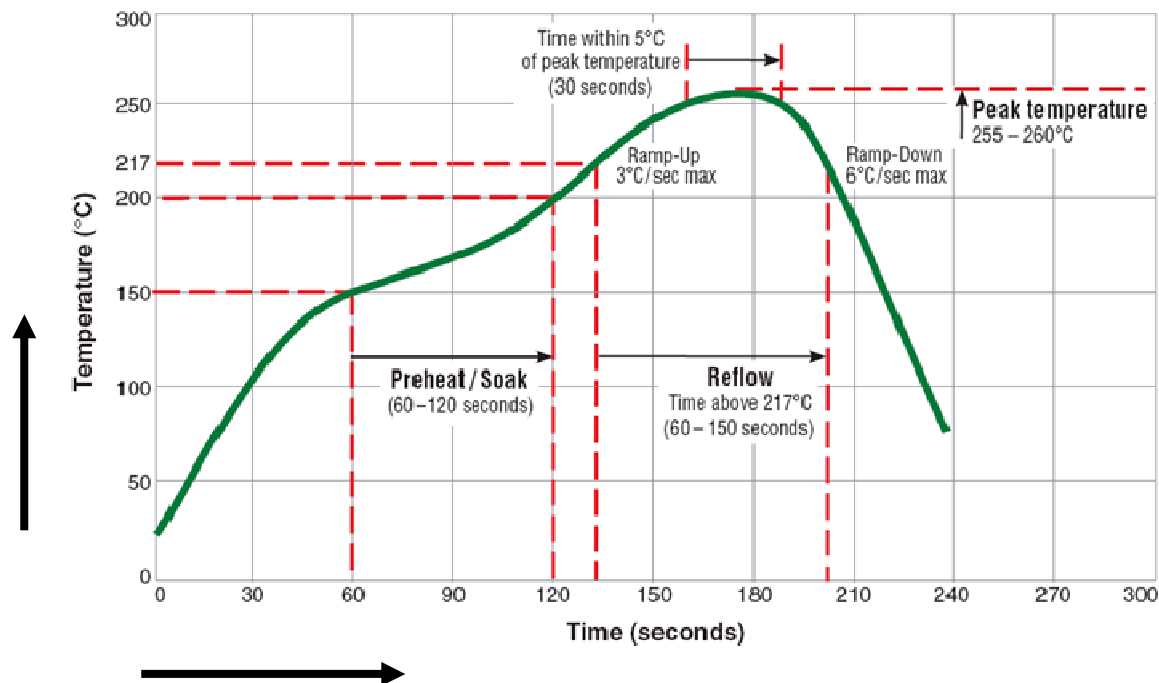
- (1). Test Freq : 100KHz , 1.0V
- (2). All test data is referenced to 25°C ambient.
- (3). Operating Temperature Range -55°C to +125°C.
- (4). Rated Current: DC current(A)that will cause an approximate ΔT of 40°C.
- (5). I sat: DC current(A)that will cause Lo to drop approximately 30%.
- (6). The part temperature(ambient +temp rise)should not exceed 125°C under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature Part temperature should be verified

Reliability Performance

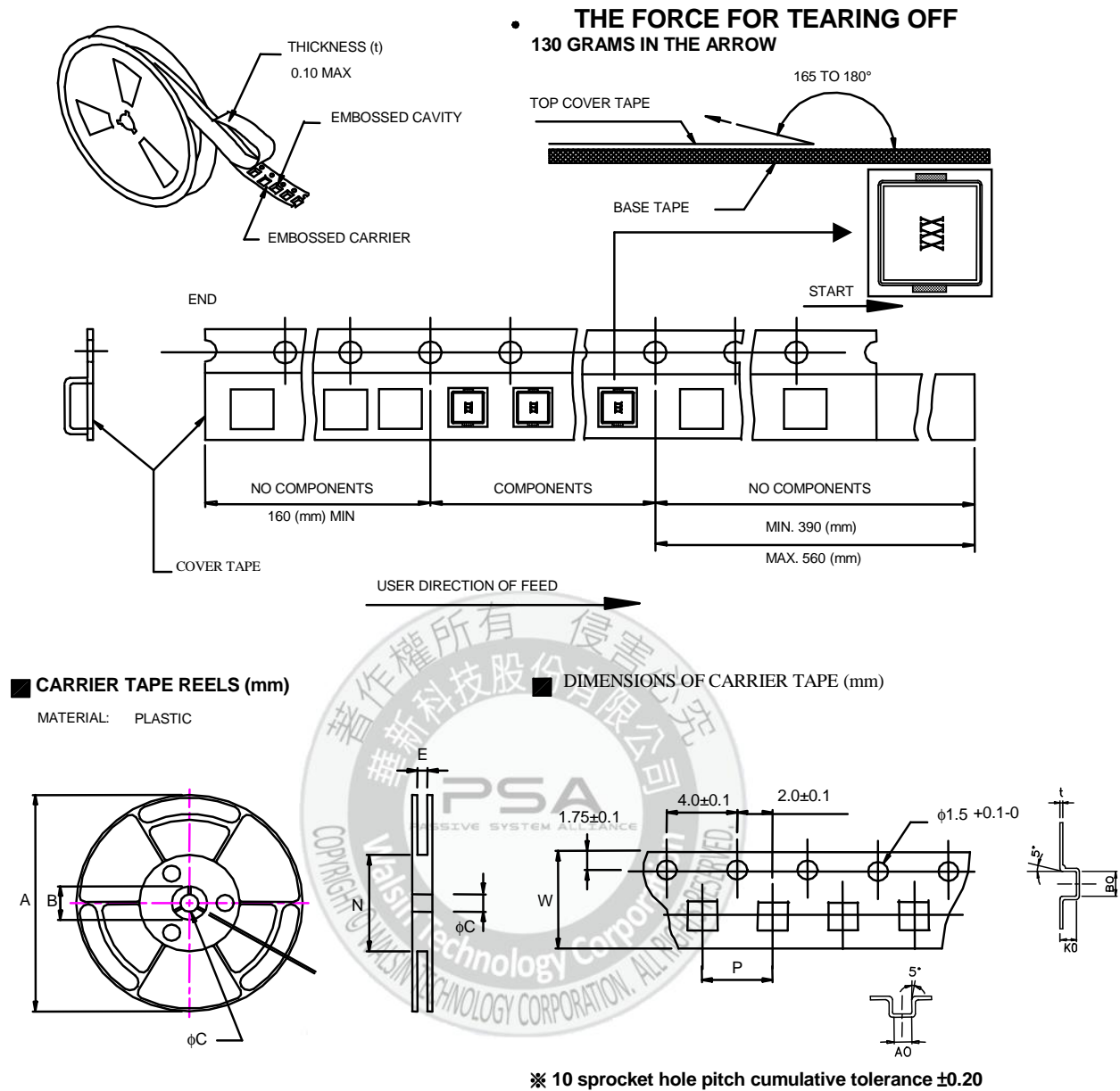
| Test Item | Test Condition | Standard Source |
|-----------------------------|---|---|
| Humidity Test | +40°C ± 2°C, humidity of 90% ± 5% (total 96 hours). | MIL-STD-202G Method 103B Test Condition B |
| High Temperature Test | 1. Temperature: +125°C ± 2°C 2. Test time: 48 ± 2hrs | IEC 68-2 Test Condition B |
| Low Temperature Test | 1. Temperature: -40°C ± 2°C 2. Test time: 48 ± 2hrs | IEC 68-2 Test Condition A |
| Thermal Shock | +125°C ± 5°C (30 minutes) ~ -40 ± 5°C (30 minutes), temperature switch time: 5 minutes (total 50 cycles). | MIL-STD-202G Method 107G Test Condition B-2 |
| Life Test | +70°C ± 5°C (250Hours) | MIL-STD-202G Method 108A Test Condition B |
| Vibration Test | 10-55-10HZ, amplitude: 1.5mm, direction: X, Y, Z axes, each axis 2 hours (total 6 hours). | MIL-STD-202G Method 201A |
| Solder Heat Resistance Test | IR/convection reflow: Peak Temp 260 ± 5°C for 30Sec in air, Through 2 Cycle. Temperature Ramp: +1~4°C/sec; Above 217°C, must keep 90 s - 120 s. | J-STD-020D Classification Reflow Profiles |
| Solder Ability Test | Soak in 245 °C solder pot of 3Sec, PAD must have 95% above coverage. | J-STD-003B |

Typical RoHS Reflow Profile

Typical RoHS Reflow Profile



Packaging



UNIT : mm

| | A | B | C | E | N | P | W | t | A0 | B0 | K0 |
|------|-----------|-----------|-----------|-----------|-----|-----------|-----------|------------|-----------|-----------|-----------|
| DIM. | 330 | 20.0 | 13.0 | 25.0 | 100 | 16.0 | 24.0 | 0.4 | 13.1 | 14.9 | 6.7 |
| TOL. | ± 0.2 | ± 0.5 | ± 0.5 | ± 0.5 | MIN | ± 0.1 | ± 0.3 | ± 0.05 | ± 0.1 | ± 0.1 | ± 0.1 |

Quantity per reel : 500 pcs

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Walsin:

| | | | |
|---|---|---|---|
| <u>WLPM131350M100LC</u> | <u>WLPM131350M1R0LC</u> | <u>WLPM131350M1R2LC</u> | <u>WLPM131350M1R5LC</u> |
| <u>WLPM131350M1R8LC</u> | <u>WLPM131350M2R2LC</u> | <u>WLPM131350MR82LC</u> | <u>WLPM131350MR10LC</u> |
| <u>WLPM131350MR22LC</u> | <u>WLPM131350MR33LC</u> | <u>WLPM131350MR47LC</u> | <u>WLPM131350MR56LC</u> |
| <u>WLPM131350MR68LC</u> | <u>WLPM131350M3R3LC</u> | <u>WLPM131350M4R7LC</u> | <u>WLPM131350M5R6LC</u> |
| <u>WLPM131350M6R8LC</u> | <u>WLPM131350M7R8LC</u> | <u>WLPM131350M8R2LC</u> | |